

What is claimed is:

5 1. An image normalization processing system comprising:  
an image reading apparatus including reading means for  
reading an image to obtain image data representing the image  
and reading side normalization processing condition  
determining means for determining a normalization processing  
condition for the image read by the reading means, the image  
reading apparatus outputting the image data; and

10 an image receiving apparatus connected to the image  
reading apparatus and including receiving side normalization  
processing condition determining means for determining a  
normalization processing condition for the image based on the  
image data and normalization processing means for carrying out  
normalization processing using the normalization processing  
15 condition determined by the reading side normalization  
processing condition determining means on the image data.

20 ~~2. An image normalization processing system comprising:~~  
~~an image reading apparatus including reading means for~~  
~~reading an image to obtain image data representing the image~~  
~~and reading side normalization processing condition~~  
~~determining means for determining a normalization processing~~  
~~condition for the image read by the reading means, the image~~  
~~reading apparatus outputting the image data and reduced image~~  
~~data generated from the image data by the reading side~~  
25 ~~normalization processing condition determining means; and~~  
~~an image receiving apparatus connected to the image~~

~~reading apparatus and including receiving side normalization~~  
processing condition determining means for determining a  
normalization processing condition for the image based on the  
reduced image data, and normalization processing means for  
5 carrying out normalization processing on the image data under  
the normalization processing condition determined by the  
receiving side normalization processing condition determining  
means.

3. An image normalization processing system comprising:

10 an image reading apparatus including reading means for  
reading an image to obtain image data representing the image  
and reading side normalization processing condition  
determining means for determining a normalization processing  
condition for the image read by the reading means, the image  
15 reading apparatus outputting the image data and the  
normalization processing condition; and

an image receiving apparatus connected to the image  
reading apparatus and including normalization processing means  
for carrying out normalization processing on the image data  
20 under the normalization processing condition and condition  
changing means for changing the normalization processing  
condition; wherein

the normalization processing means is capable of carrying  
out normalization processing on the image data under the  
25 normalization processing condition changed by the condition  
changing means.

~~4. An image normalization processing system comprising:~~

an image reading apparatus including reading means for reading an image to obtain image data representing the image and reading side normalization processing condition determining means for determining a normalization processing condition for the image read by the reading means, the image reading apparatus outputting the image data and a parameter for determining the normalization processing condition; and

an image receiving apparatus connected to the image reading apparatus and including receiving side normalization processing condition determining means for determining a normalization processing condition for the image based on the image data and the parameter, and normalization processing means for carrying out normalization processing on the image data under the normalization processing condition determined by the receiving side normalization processing condition determining means.

5. An image normalization processing system comprising:

an image reading apparatus including reading means for reading an image to obtain image data representing the image and reading side normalization processing condition determining means for determining a normalization processing condition for the image read by the reading means, the image reading apparatus outputting the image data, reduced image data generated from the image data by the reading side normalization processing condition determining means, and a parameter for

determining the normalization processing condition; and

an image receiving apparatus connected to the image reading apparatus and including receiving side normalization processing condition determining means for determining a normalization processing condition of the image based on the reduced image data and the parameter, and normalization processing means for carrying out normalization processing on the image data under the normalization processing condition determined by the receiving side normalization processing condition determining means.

6. An image normalization processing system comprising:

an image reading apparatus including reading means for reading an image to obtain image data representing the image and reading side normalization processing condition determining means for determining a normalization processing condition for the image read by the reading means, the image reading apparatus outputting the image data, the normalization processing condition, and a parameter for determining the normalization processing condition; and

an image receiving apparatus connected to the image reading apparatus and including normalization processing means for carrying out normalization processing on the image data under the normalization processing condition and condition changing means for changing the normalization processing condition based on the parameter; wherein

the normalization processing means is capable of carrying

~~out normalization processing on the image data under the~~  
normalization processing condition changed by the condition  
changing means.

7. An image normalization processing system comprising:

5 an image reading apparatus including reading means for  
reading an image to obtain image data representing the image  
and reading side normalization processing condition  
determining means for determining a normalization processing  
condition for the image read by the reading means, the image  
reading apparatus outputting the image data, the normalization  
processing condition, and reduced image data generated from the  
image data by the reading side normalization processing  
condition determining means; and

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an image receiving apparatus connected to the image  
15 reading apparatus and including normalization processing means  
for carrying out normalization processing on the image data  
under the normalization processing condition and condition  
changing means for changing the normalization processing  
condition based on the reduced image data, wherein

20 the normalization processing means is capable of carrying  
out normalization processing on the image data under the  
normalization processing condition changed by the condition  
changing means.

8. An image normalization processing system comprising:

25 an image reading apparatus including reading means for  
reading an image to obtain image data representing the image

~~and reading side normalization processing condition~~  
determining means for determining a normalization processing  
condition for the image read by the reading means, the image  
reading apparatus outputting the image data, the normalization  
5 processing condition, reduced image data generated from the  
image data by the reading side normalization processing  
condition determining means, and a parameter for determining  
the normalization processing condition; and

an image receiving apparatus connected to the image  
reading apparatus and including normalization processing means  
for carrying out normalization processing on the image data  
under the normalization processing condition and condition  
changing means for changing the normalization processing  
condition based on the reduced image data and the parameter,  
15 wherein

the normalization processing means is capable of carrying  
out normalization processing on the image data under the  
normalization processing condition changed by the condition  
changing means.

9. An image normalization processing system comprising:

an image reading apparatus including reading means for  
reading an image to obtain image data representing the image,  
reading side normalization processing condition determining  
means for determining a normalization processing condition for  
25 the image read by the reading means, reading side normalization  
processing means for carrying out normalization processing on

the image data under the normalization processing condition  
determined by the reading side normalization processing  
condition determining means to obtain normalized image data,  
and judging means for judging whether or not the normalization  
5 processing condition is within a predetermined range, the image  
reading apparatus outputting the normalized image data in the  
case where the normalization processing condition has been  
judged by the judging means to be in the predetermined range  
and outputting the image data in the case where the normalization  
10 processing condition has been judged by the judging means to  
be not in the predetermined range; and

image receiving apparatus connected to the image reading  
apparatus and including receiving side normalization  
processing condition determining means for determining a  
15 normalization processing condition for the image based on the  
image data, and receiving side normalization processing means  
for carrying out normalization processing on the image data  
under the normalization processing condition determined by the  
receiving side normalization processing condition determining  
20 means, the receiving side normalization processing condition  
determining means and the receiving side normalization  
processing means respectively carrying out the determination  
of the normalization processing condition and the normalization  
processing in the case where the image data have been received  
25 by the image receiving apparatus.

10. An image normalization processing system

comprising:

5 image reading apparatus including reading means for  
reading an image to obtain image data representing the image,  
reading side normalization processing condition determining  
means for determining a normalization processing condition for  
the image read by the reading means, reading side normalization  
processing means for carrying out normalization processing on  
the image data under the normalization processing condition  
determined by the reading side normalization processing  
condition determining means to obtain normalized image data,  
and judging means for judging whether or not the normalization  
processing condition is within a predetermined range, the image  
reading apparatus outputting the normalized image data in the  
case where the normalization processing condition has been  
15 judged by the judging means to be in the predetermined range,  
and outputting the image data, and reduced image data generated  
from the image data by the reading side normalization processing  
condition determining means in the case where the normalization  
processing condition has been judged to be not in the  
20 predetermined range; and

25 image receiving apparatus connected to the image reading  
apparatus and including receiving side normalization  
processing condition determining means for determining a  
normalization processing condition for the image based on the  
reduced image data, and receiving side normalization processing  
means for carrying out normalization processing on the image



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~~data under the normalization processing condition determined~~  
by the receiving side normalization processing condition  
determining means, the receiving side normalization processing  
condition determining means and the receiving side  
5 normalization processing means respectively carrying out the  
determination of the normalization processing condition and the  
normalization processing in the case where the image data and  
the reduced image data have been received by the image receiving  
apparatus.

10 11. An image normalization processing system  
comprising:

15 an image reading apparatus including reading means for  
reading an image to obtain image data representing the image,  
reading side normalization processing condition determining  
means for determining a normalization processing condition for  
the image read by the reading means, reading side normalization  
processing means for carrying out normalization processing on  
the image data under the normalization processing condition  
determined by the reading side normalization processing  
20 condition determining means to obtain normalized image data,  
and judging means for judging whether or not the normalization  
processing condition is within a predetermined range, the image  
reading apparatus outputting the normalized image data in the  
case where the normalization processing condition has been  
25 judged by the judging means to be in the predetermined range  
and outputting the image data and the normalization processing

~~condition in the case where the normalization processing condition has been judged by the judging means to be not in the predetermined range; and~~

5 image receiving apparatus connected to the image reading apparatus and including receiving side normalization processing means for carrying out normalization processing on the image data under the normalization processing condition, and condition changing means for changing the normalization processing condition, wherein

10 the receiving side normalization processing means is capable of carrying out normalization processing on the image data under the normalization processing condition changed by the condition changing means in the case where the image data and the normalization processing condition have been received  
15 by the image receiving apparatus.

12. An image normalization processing system comprising:

20 an image reading apparatus including reading means for reading an image to obtain image data representing the image, reading side normalization processing condition determining means for determining a normalization processing condition for the image read by the reading means, reading side normalization processing means for carrying out normalization processing on the image data under the normalization processing condition  
25 determined by the reading side normalization processing condition determining means to obtain normalized image data,

and judging means for judging whether or not the normalization  
processing condition is within a predetermined range, the image  
reading apparatus outputting the normalized image data in the  
case where the normalization processing condition has been  
5 judged by the judging means to be in the predetermined range  
and outputting the image data and a parameter for determining  
the normalization processing condition in the case where the  
normalization processing condition has been judged by the  
judging means to be not in the predetermined range; and

10 image receiving apparatus connected to the image reading  
apparatus and including receiving side normalization  
processing condition determining means for determining a  
normalization processing condition for the image based on the  
image data and the parameter, and receiving side normalization  
15 processing means for carrying out normalization processing on  
the image data under the normalization processing condition  
determined by the receiving side normalization processing  
condition determining means, the receiving side normalization  
processing condition determining means and the receiving side  
20 normalization processing means respectively carrying out the  
determination of the normalization processing condition and the  
normalization processing in the case where the image data and  
the parameter have been received by the image receiving  
apparatus.

25 13. An image normalization processing system  
comprising:

an image reading apparatus including reading means for  
reading an image to obtain image data representing the image,  
reading side normalization processing condition determining  
means for determining a normalization processing condition for  
5 the image read by the reading means, reading side normalization  
processing means for carrying out normalization processing on  
the image data under the normalization processing condition  
determined by the reading side normalization processing  
condition determining means to obtain normalized image data,  
10 and judging means for judging whether or not the normalization  
processing condition is within a predetermined range, the image  
reading apparatus outputting the normalized image data in the  
case where the normalization processing condition has been  
judged by the judging means to be in the predetermined range  
15 and outputting the image data, reduced image data generated from  
the image data by the reading side normalization processing  
condition determining means and a parameter for determining the  
normalization processing condition in the case where the  
normalization processing condition has been judged by the  
20 judging means to be not in the predetermined range; and

image receiving apparatus connected to the image reading  
apparatus and including receiving side normalization  
processing condition determining means for determining a  
normalization processing condition for the image based on the  
25 reduced image data and the parameter, and receiving side  
normalization processing means for carrying out normalization

~~processing on the image data under the normalization processing~~  
condition determined by the receiving side normalization  
processing condition determining means, the receiving side  
normalization processing condition determining means and the  
5 receiving side normalization processing means respectively  
carrying out the determination of the normalization processing  
condition and the normalization processing in the case where  
the image data, the reduced image data, and the parameter have  
been received by the image receiving apparatus.

10 14. An image normalization processing system  
comprising:

an image reading apparatus including reading means for  
reading an image to obtain image data representing the image,  
normalization processing condition determining means for  
15 determining a normalization processing condition for the image  
read by the reading means, reading side normalization  
processing means for carrying out normalization processing on  
the image data under the normalization processing condition  
determined by the normalization processing condition  
20 determining means to obtain normalized image data, and judging  
means for judging whether or not the normalization processing  
condition is within a predetermined range, the image reading  
apparatus outputting the normalized image data in the case where  
the normalization processing condition has been judged by the  
25 judging means to be in the predetermined range and outputting  
the image data, the normalization processing condition, and a

~~parameter for determining the normalization processing condition in the case where the normalization processing condition has been judged by the judging means to be not in the predetermined range; and~~

5 image receiving apparatus connected to the image reading apparatus and including receiving side normalization processing means for carrying out normalization processing on the image data under the normalization processing condition, and condition changing means for changing the normalization processing condition based on the parameter, wherein

10 the receiving side normalization processing means is capable of carrying out normalization processing on the image data under the normalization processing condition changed by the condition changing means in the case where the image data, the normalization processing condition, and the parameter have been received by the image receiving apparatus.

15 15. An image normalization processing system comprising:

20 an image reading apparatus including reading means for reading an image to obtain image data representing the image, normalization processing condition determining means for determining a normalization processing condition for the image read by the reading means, reading side normalization processing means for carrying out normalization processing on the image data under the normalization processing condition determined by the normalization processing condition

~~determining means to obtain normalized image data, and judging~~  
means for judging whether or not the normalization processing  
condition is within a predetermined range, the image reading  
apparatus outputting the normalized image data in the case where  
5 the normalization processing condition has been judged by the  
judging means to be in the predetermined range and outputting  
the image data, the normalization processing condition, and  
reduced image data generated from the image data by the  
normalization processing condition determining means in the  
10 case where the normalization processing condition has been  
judged to be not in the predetermined range by the judging means;  
and

image receiving apparatus connected to the image reading  
apparatus and including receiving side normalization  
15 processing means for carrying out normalization processing on  
the image data under the normalization processing condition and  
condition changing means for changing the normalization  
processing condition based on the reduced image data, wherein

the receiving side normalization processing means is  
20 capable of carrying out normalization processing on the image  
data under the normalization processing condition changed by  
the condition changing means in the case where the image data,  
the normalization processing condition, and the reduced image  
data have been received by the image receiving apparatus.

25 16. An image normalization processing system  
comprising:

an image reading apparatus including reading means for  
reading an image to obtain image data representing the image,  
normalization processing condition determining means for  
determining a normalization processing condition for the image  
5 read by the reading means, reading side normalization  
processing means for carrying out normalization processing on  
the image data under the normalization processing condition  
determined by the normalization processing condition  
determining means to obtain normalized image data, and judging  
10 means for judging whether or not the normalization processing  
condition is within a predetermined range, the image reading  
apparatus outputting the normalized image data in the case where  
the normalization processing condition has been judged to be  
in the predetermined range by the judging means and outputting  
15 the image data, the normalization processing condition, reduced  
image data generated from the image data by the normalization  
processing condition determining means, and a parameter for  
determining the normalization processing condition in the case  
where the normalization processing condition has been judged  
20 by the judging means to be not in the predetermined range; and  
image receiving apparatus connected to the image reading  
apparatus and including receiving side normalization  
processing means for carrying out normalization processing on  
the image data under the normalization processing condition and  
25 condition changing means for changing the normalization  
processing condition based on the reduced image data and the



parameter, wherein

the receiving side normalization processing means is capable of carrying out normalization processing on the image data under the normalization processing condition changed by the condition changing means in the case where the image data, the normalization processing condition, the reduced image data, and the parameter have been received by the image receiving apparatus.

17. An image normalization processing system comprising:


an image reading apparatus including reading means for reading an image to obtain image data representing the image, reading side normalization processing condition determining means for determining a first normalization processing condition for the image read by the reading means, and reading side normalization processing means for carrying out normalization processing on the image data, the image reading apparatus outputting reduced image data generated from the image data by the reading side normalization processing condition determining means; and

an image receiving apparatus connected to the image reading apparatus and including receiving side normalization processing condition determining means for determining a second normalization processing condition based on the reduced image data, wherein

the second normalization processing condition is output

~~to the image reading apparatus and the reading side~~  
normalization processing means carries out normalization  
processing on the image data under the second normalization  
processing condition to obtain normalized image data to be  
5 output to the image receiving apparatus.

18. An image normalization processing system  
comprising:

  
an image reading apparatus including reading means for  
reading an image to obtain image data representing the image  
and reading side normalization processing condition  
determining means for determining a normalization processing  
condition for the image read by the reading means, the image  
reading apparatus outputting the image data and the  
normalization processing condition; and

15 an image receiving apparatus connected to the image  
reading apparatus and including judging means for judging  
whether or not the normalization processing condition is within  
a predetermined range, normalization processing means for  
carrying out normalization processing on the image data under  
20 the normalization processing condition in the case where the  
normalization processing condition has been judged to be in the  
predetermined range, and canceling means for canceling the  
normalization processing by the normalization processing means  
under the normalization processing condition in the case where  
25 the normalization processing condition has been judged to be  
not in the predetermined range.

19. ~~An image normalization processing system according to Claim 18 further comprising warning means for issuing a warning in the case where the normalization processing has been canceled by the canceling means.~~

5           20. An image normalization processing system according to Claim 18 further comprising condition changing means for changing the normalization processing condition, wherein the normalization processing condition is changed by the condition changing means and the normalization processing means carries out normalization processing on the image data under the changed normalization processing condition in the case where the normalization processing has been canceled by the canceling means.

10           21. An image normalization processing system according to Claim 19 further comprising condition changing means for changing the normalization processing condition, wherein the normalization processing condition is changed by the condition changing means and the normalization processing means carries out normalization processing on the image data under the changed normalization processing condition in the case where the normalization processing has been canceled by the canceling means.

15           22. ~~An image output method wherein an image reading apparatus, comprising reading means for reading an image to obtain image data representing the image and normalization processing condition determining means for determining a~~

~~normalization processing condition for the image read by the~~  
reading means, outputs the image data to an image receiving  
apparatus.

5 ~~23. An image output method as claimed in Claim 22 wherein,~~  
in addition to the image data, at least one of the normalization  
processing condition, reduced image data generated from the  
image data by the normalization processing condition  
determining means, and a parameter for determining the  
normalization processing condition are output to the image  
receiving apparatus.

10 24. An image output method as claimed in Claim 22 wherein  
whether or not the normalization processing condition is within  
a predetermined range is judged and

15 in addition to the image data, at least one of the  
normalization processing condition, reduced image data  
generated from the image data by the normalization processing  
condition determining means, and a parameter for determining  
the normalization processing condition are output to the image  
receiving apparatus when the normalization processing  
20 condition is not within the predetermined range.